Technische Mitteilungen

Nr.: 105

Rev. 0 23. 01. 2013 L. Wiemann

DAC 8 – Operation with LINUX PCs

Linux is not officially supported by **T+A** as operating system for use with the **DAC 8.**
Nevertheless it is possible to use the **DAC 8** as USB D/A Converter for Linux PCs. The system described below was successfully tested but no responsibiluty is taken for the correctness of the information given.

USB 1 Mode
Most current LINUX distributions will support USB 1 mode „Out of the Box“ with DAC 8. With USB 1 mode reproduction of HD audio files up to 96kHz/24Bit in adaptive mode is possible. Please choose „**USB 1“ m**ode at the DAC 8 (see DAC8 user manual for details).

USB Mode 2
USB Mode 2, with up to 192kHz/32Bit and asynchronous data transmission is also possible under the following conditions:

Kernel version >= 3.4.x
– older kernels do not support the **TE8802** USB receiver chip used in DAC 8.

Select „**USB 2“ m**ode at the DAC 8 (see DAC 8 user manual for details)

The following system was successfully tested in asynchronous USB 2 mode with DAC 8:

- ***Ubuntu 12.04 LTS*** with kernel upgrade to ***Kernel 3.6.2***
- **ALSA** Sound Architecture
- ***Clementine*** as player programme

Hint:
Other distributions with appropriate new kernel, other sound architectures and other player programmes might work as well but were not tested by us.

Some details:

Ubuntu 12.04 with default Kernel (3.2.x) does **not** support DAC 8. For the necessary kernel upgrade to kernel version 3.6.2 see the following link:

http://www.itworld.com/software/303901/upgrade-linux-kernel-362-ubuntu-12041210-and-linux-mint-13

After installing the new kernel please choose the T+A Audio Device as output device in **System Settings / Audio**

ALSA as Soundarchitektur is tested by us with DAC 8 ans works flawlessly.
Other sound architectures like OSS, OSS4, Phonon etc. were not tested.

The ALSA sound device to choose will normally be device **hw:1,1** (Card 1, Device 1).
You can check that by typing the following terminal command:

sudo aplay -l

This will give an output like this:

**** List of PLAYBACK Hardware Devices ****
card 0: Intel [HDA Intel], device 0: ALC889 Analog [ALC889 Analog]
Subdevices: 1/1
Subdevice #0: subdevice #0
card 1: Device [T+A USB Audio Device], device 0: USB Audio [USB Audio]
Subdevices: 1/1
Subdevice #0: subdevice #0
card 1: Device [T+A USB Audio Device], device 1: USB Audio [USB Audio #1]
Subdevices: 1/1
Subdevice #0: subdevice #0

In the above case select ALSA device ***hw:1,1*** (card1, device 1: USB Audio #1).
Do not use device *hw:1,0* (card1, device 0: USB Audio) – this might produce a distorted or interrupted playback.

Hint: If in your case the T+A device has a different card number, the ALSA device number must be adjusted accordingly (ex. ***hw:0,1*** for card 0, or ***hw:2,1*** for card 2).

Cementine

Please select the following settings under Preferences/Playback/output :	„Audio sink (ALSA)“
and as output device:	„hw:1,1“ (*)
as buffer size	4000 ms

(*) If the DAC 8 has a different card number in your system (see above) this setting is to be adjusted accordingly.

To guarantee a bit-perfect and flawless playback the following settings and features should be switched OFF under preferences / playback:

- cross fade manual track change → OFF
- cross fade automatic track change → OFF
- Replay Gain → OFF

Other player programmes like *gmusicbrowser, DeaDBeef, QuodLibet* etc.were not tested.

This link will give some further details about player programmes and bit-perfect play back under Linux:

http://www.head-fi.org/t/561961/bit-perfect-audio-from-linux#post_7596268

Audacity

Audacity sound processing programme also works with DAC 8 with the following settings under „preferences/devices“:

Sound architecture: ALSA
Device: T+A USB Audio Device: USB Audio #1 (hw:1,1) (*)

(*) If the DAC 8 has a different card number in your system (see above) this setting is to be adjusted accordingly.

Generally player programmes should be started after DAC 8 was properly connected, switched ON and selected unser system settings / audio as output device.

Further Information

For further Information about Linux support of the ***TE8802*** USB receiver chip please follow the link below:

http://www.head-fi.org/t/609062/te8802-asynchronous-dacs-on-linux-and-squeezebox-touch-supported-with-triodes-app-for-the-sbt/15